

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A printer controller ~~which generates~~ configured to generate pattern data ~~to be printed by a printer engine for use in carrying out~~ a tone adjusting process, said printer controller comprising:

~~a memory which stores reference tone patterns and tone adjusting patterns;~~

~~selecting means for selecting~~ a selecting unit configured to select a dot size of ~~one of the~~ a reference tone patterns ~~to be printed, said dot size being determined by pattern by~~ varying a number of pixels forming each dot of the reference tone pattern; and

~~generating means for generating and outputting to the printer engine said one of the~~ a ~~generating unit configured to generate and output said~~ reference tone patterns ~~by pattern~~ having the dot size selected by said selecting means unit and tone adjusting patterns having tones ~~falling within of~~ a predetermined range ~~with respect to~~ including a reference tone of said ~~one of the~~ reference tone pattern patterns, ~~based on the reference tone patterns and the tone adjusting patterns stored in said memory.~~

Claim 2 (Currently Amended): The printer controller as claimed in claim 1, wherein said selecting ~~means selects~~ unit is configured to select the dot size in response to an external input.

Claim 3 (Currently Amended): The printer controller as claimed in claim 1, wherein said selecting ~~means automatically selects~~ unit is configured to select the dot size depending on a counted value of a maintenance counter ~~within the printer engine~~, said counted value ~~being received from the printer engine and indicating a total operating time of the~~ a printer engine.

Claim 4 (Currently Amended): The printer controller as claimed in claim 1, wherein said selecting ~~means automatically selects~~ unit is configured to select the dot size depending on an output value of a toner sensor ~~within the printer engine~~, said output value being ~~received from the printer engine and indicating a remaining amount of toner within the a~~ printer engine.

Claim 5 (Currently Amended): The printer controller as claimed in claim 1, wherein said selecting ~~means automatically selects~~ unit is configured to select the dot size depending on an engine ID stored in a register ~~within the printer engine~~, said engine ID being ~~received from the printer engine and indicating a type of the a~~ printer engine.

Claim 6 (Currently Amended): The printer controller as claimed in claim 1, wherein said selecting ~~means selects~~ unit is configured to select the dot size depending on a resolution ~~which is input to the printer controller.~~

Claim 7 (Currently Amended): The printer controller as claimed in claim 1, wherein said selecting ~~means selects~~ unit is configured to select the dot size depending on each of basic colors used by corresponding image forming sections of ~~the a~~ printer engine.

Claim 8 (Currently Amended): The printer controller as claimed in claim 1, wherein said generating ~~means generates said one of the~~ unit is configured to generate said reference tone ~~patterns~~ pattern and the tone adjusting patterns ~~which form a circular shape as a whole, so such~~ that said ~~one of the~~ reference tone patterns ~~is made up of a circular pattern~~ includes a central portion and reference sector portions arranged intermittently ~~in a 360 degree range,~~

~~and around said central portion,~~ the tone adjusting patterns are ~~formed by~~ include adjusting sector portions ~~respectively arranged intermittently to be around said central portion and each~~ respectively located between two mutually adjacent of the reference sector portions ~~of said one of the reference tone patterns,~~ whereby each of the ~~tone adjusting patterns~~ adjusting sector portions has three sides ~~which are respectively adjacent to said one of the reference~~ tone patterns central portion and two of the reference sector portions.

Claim 9 (Currently Amended): The printer controller as claimed in claim 1, further comprising:

~~a correcting means for carrying out~~ unit configured to determine a  $\gamma$ -correction based on an external input ~~which is made, the external input being~~ based on a printed output ~~result made by the printer engine in response to said one of the reference tone patterns~~ pattern and the tone adjusting patterns generated by said generating ~~means~~ unit.

Claim 10 (Currently Amended): An image forming apparatus comprising:

a printer controller ~~which generates~~ configured to generate pattern data; and  
a printer engine ~~which prints~~ configured to print the pattern data generated by said printer controller ~~for use in carrying out a tone adjusting process,~~

said printer controller comprising:

~~a memory which stores reference tone patterns and tone adjusting patterns;~~  
~~selecting means for selecting~~ a selecting unit configured to select a dot size of ~~one of the~~ a reference tone patterns to be printed, said dot size being determined by pattern by varying a number of pixels forming each dot of the reference tone pattern;  
and

~~generating means for generating and outputting to the printer engine said one of the a generating unit configured to generate and output a reference tone patterns by pattern having the dot size selected by said selecting means-unit and tone adjusting patterns having tones falling within of a predetermined range with respect to including a reference tone of said one of the reference tone pattern patterns, based on the reference tone patterns and the tone adjusting patterns stored in said memory.~~

Claim 11 (Currently Amended): The image forming apparatus as claimed in claim 10, wherein said selecting ~~means of said printer controller selects-unit is configured to select~~ the dot size in response to an external input.

Claim 12 (Currently Amended): The image forming apparatus as claimed in claim 10, wherein said printer engine includes a maintenance counter ~~having configured to determine a counted value which indicates-indicating a total operating time of the printer engine, and said selecting means-unit of said printer controller automatically selects-is configured to select~~ the dot size depending on the counted value of the maintenance counter ~~received from said printer engine.~~

Claim 13 (Currently Amended): The image forming apparatus as claimed in claim 10, wherein said printer engine includes a toner sensor ~~generating configured to generate an output value which indicates-indicating a remaining amount of toner within said printer engine, and said selecting means-unit of said printer controller automatically selects-is configured to select~~ the dot size depending on the output value of the toner sensor ~~received from said printer engine.~~

Claim 14 (Currently Amended): The image forming apparatus as claimed in claim 10, wherein said printer engine includes a register ~~storing~~ configured to store an engine ID ~~which indicates~~ indicating a type of said printer engine, and said selecting ~~means-unit~~ of said printer controller ~~automatically selects~~ is configured to select the dot size depending on the engine ID stored in the register ~~and received from said printer engine~~.

Claim 15 (Currently Amended): The image forming apparatus as claimed in claim 10, wherein said selecting ~~means-unit~~ of said printer controller ~~selects~~ is configured to select the dot size depending on a resolution ~~which is~~ input to the printer controller.

Claim 16 (Currently Amended): The image forming apparatus as claimed in claim 10, wherein said printer engine includes image forming sections respectively corresponding to basic colors ~~which are~~ used to print a color image, and said selecting ~~means-unit~~ of said printer controller ~~selects~~ is configured to select the dot size depending on each of the basic colors.

Claim 17 (Currently Amended): The image forming apparatus as claimed in claim 10, wherein said generating ~~means-unit~~ of said printer controller ~~generates~~ is configured to generate said ~~one of the~~ reference tone ~~patterns~~ pattern and the tone adjusting patterns ~~which form a circular shape as a whole, so such~~ that said ~~one of the~~ reference tone ~~patterns~~ is made up of a circular pattern includes a central portion and reference sector portions arranged intermittently ~~in a 360 degree range, and around said central portion,~~ the tone adjusting patterns ~~are formed by~~ include adjusting sector portions ~~respectively~~ arranged intermittently ~~to be around said central portion and each respectively~~ located between two ~~mutually adjacent of the reference~~ sector portions ~~of said one of the reference tone patterns~~, whereby

each of the ~~tone adjusting patterns~~ adjusting sector portions has three sides ~~which are~~  
respectively adjacent to said ~~one of the reference tone patterns~~ pattern.

Claim 18 (Currently Amended): The image forming apparatus as claimed in claim 10, wherein said printer controller further includes a correcting means for carrying out unit configured to determine a  $\gamma$ -correction based on an external input which is made, the external input being based on a printed output result made by said printer engine in response to said ~~one of the reference tone patterns~~ pattern and the tone adjusting patterns generated by said ~~generating means~~ unit.

Claim 19 (Currently Amended): A tangible computer-readable storage medium ~~which stores a program for causing~~ configured to store computer code configured to cause a computer ~~which generates to generate~~ pattern data, to be printed by a printer engine, for use in ~~carrying out~~ a tone adjusting process, said ~~program~~ computer code comprising:

~~storing means for causing the computer to store reference tone patterns and tone~~  
~~adjusting patterns;~~

~~selecting means for causing first computer code configured to cause the computer to~~  
~~select a dot size of one of the a reference tone patterns to be printed, said dot size being~~  
~~determined by pattern by varying a number of pixels forming each dot of the reference tone~~  
~~pattern; and~~

~~generating means for causing second computer code configured to cause the computer~~  
~~to generate and output, to the printer engine, said one of the reference tone patterns by pattern~~  
~~having the dot size selected by said selecting means unit and tone adjusting patterns having~~  
~~tones falling within of a predetermined range with respect to including a reference tone of~~

said ~~one of the~~ reference tone pattern ~~patterns, based on the reference tone patterns and the~~  
~~tone-adjusting patterns stored by said storing means.~~

Claim 20 (Currently Amended): The tangible computer-readable storage medium as claimed in claim 19, wherein said ~~selecting means~~ first computer code causes the computer to select the dot size in response to an external input.

Claim 21 (Currently Amended): The tangible computer-readable storage medium as claimed in claim 19, wherein said ~~selecting means~~ first computer code causes the computer to ~~automatically~~ select the dot size depending on a counted value of a maintenance counter ~~within the printer engine, said counted value being received from the printer engine and~~ indicating a total operating time of the printer engine.

Claim 22 (Currently Amended): The tangible computer-readable storage medium as claimed in claim 19, wherein said ~~selecting means~~ first computer code causes the computer to ~~automatically~~ select the dot size depending on an output value of a toner sensor ~~within the printer engine, said output value being received from the printer engine and~~ indicating a remaining amount of toner within the printer engine.

Claim 23 (Currently Amended): The tangible computer-readable storage medium as claimed in claim 19, wherein said ~~selecting means~~ first computer code causes the computer to ~~automatically~~ select the dot size depending on an engine ID ~~stored in a register within the printer engine, said engine ID being received from the printer engine and~~ indicating a type of the printer engine.

Claim 24 (Currently Amended): The tangible computer-readable storage medium as claimed in claim 19, wherein said ~~selecting means~~ first computer code causes the computer to select the dot size depending on a resolution ~~which is~~ input to the printer controller.

Claim 25 (Currently Amended): The tangible computer-readable storage medium as claimed in claim 19, wherein said ~~selecting means~~ first computer code causes the computer to select the dot size depending on each of basic colors used by corresponding image forming sections of the printer engine.

Claim 26 (Currently Amended): The tangible computer-readable storage medium as claimed in claim 19, wherein said ~~generating means~~ second computer code causes the computer ~~OT to~~ generate said ~~one of the~~ reference tone ~~patterns~~ pattern and the tone adjusting patterns ~~which form a circular shape as a whole, so such~~ that said ~~one of the~~ reference tone patterns ~~is made up of a circular~~ pattern includes a central portion and reference sector portions arranged intermittently in a 360 degree range, and around said central portion, the tone adjusting patterns are formed by include adusting sector portions respectively arranged intermittently to be around said central portion and each respectively located between two mutually adjacent sector portions of said one of the reference tone patterns of the reference sector portions, whereby each of the ~~tone-adjusting patterns~~ sector portions has three sides ~~which are respectively adjacent to said one of the reference tone patterns~~ pattern.

Claim 27 (Currently Amended): The tangible computer-readable storage medium as claimed in claim 19, wherein said program further comprises:

~~correcting means for causing~~ third computer code configured to cause the computer to ~~carry out~~ determine a  $\gamma$ -correction based on an external input ~~which is made, the external~~



input being based on a printed output ~~result made by the printer engine in response to said~~  
~~one of the reference tone patterns~~ pattern and the tone adjusting patterns ~~generated by said~~  
~~generating means.~~

Claim 28 (New): The printer controller as claimed in claim 1, wherein the generating unit is configured to generate means for determining one of the tone adjusting patterns matching the reference tone pattern.

Claim 29 (New): The printer controller as claimed in claim 10, wherein the generating unit is configured to generate means for determining one of the tone adjusting patterns matching the reference tone pattern.

Claim 30 (New): The computer-readable storage medium as claimed in claim 19, wherein the second computer code causes the computer to generate means for determining one of the tone adjusting patterns matching the reference tone pattern.

Claim 31 (New): A printer controller configured to generate pattern data, printed by a printer engine, for use in a tone adjusting process, said printer controller comprising:

means for selecting a dot size of a reference tone pattern by varying a number of pixels forming each dot of the reference tone pattern; and

means for generating and outputting, to the printer engine, said reference tone pattern having the dot size selected by said selecting means and tone adjusting patterns having tones of a predetermined range including a reference tone of said reference tone pattern.

Claim 32 (New): The printer controller as claimed in claim 31, wherein the means for generating and outputting is configured to generate and output means for determining one of the tone adjusting patterns matching the reference tone pattern.

Claim 33 (New): A method of adjusting a tone pattern printed by a printer engine, said method comprising:

selecting a dot size of a reference tone pattern by varying a number of pixels forming each dot of the reference tone pattern; and

generating and outputting, to the printer engine, said reference tone pattern having the selected dot size and tone adjusting patterns having tones of a predetermined range including a reference tone of said reference tone pattern.

Claim 34 (New): The method of adjusting a tone pattern as claimed in Claim 33, wherein said generating and outputting includes generating and outputting means for determining one of the tone adjusting patterns matching the reference tone pattern.

Claim 35 (New): A method of adjusting a tone pattern printed by a printer engine, said method comprising:

a step for selecting a dot size of a reference tone pattern by varying a number of pixels forming each dot of the reference tone pattern; and

a step for generating and outputting, to the printer engine, said reference tone pattern having the selected dot size and tone adjusting patterns having tones of a predetermined range including a reference tone of said reference tone pattern.

Claim 36 (New): The method of adjusting a tone pattern as claimed in claim 35, said method further comprising:

a step for determining one of the tone adjusting patterns matching the reference tone pattern.